SEQUENCE LISTING

SEQ ID NO: 1 LENGTH: 524

TYPE: amino acid TOPOLOGY: linear KIND: peptide

SEQUENCE

Met	Asn	Leu	His	Val 5	Val	Lys	Trp	Lys	Leu 10	Ser	Val	Val	Ser	Val 15	Leu
Ile	Thr	Leu	Tyr 20	Tyr	Ser	His	Thr	Val 25	Ala	Leu	Ser	Leu	Lys 30	Glu	His
Leu	Ala	Asp 35	Cys	Leu	Glu	Asp	Lys 40	Asp	Tyr	Asp	Thr	Leu 45	Leu	Gln	Thr
Leu	Asp 50	Asn	Gly	Leu	Pro	His 55	Ile	Asn	Thr	Ser	His 60	His	Val	Val	Ile
65	_		Gly		70					75					80
81	_		Thr	85					90					95	
_			Thr 100					105					110		
-		115	Arg				120			•	•	125			
<u>-</u> .	130		Gly			135					140				
145					150				Glu	155					160
145 Glu	Asn	Pro	Asp	Val 165	150 Leu	Lys	Tyr	Asn	Val 170	155 Ser	Glu	Ser	Glu	Lys 175	160 Gly
145 Glu Ile	Asn Ser	Pro Ala	Asp Asp 180	Val 165 Asp	150 Leu Leu	Lys Leu	Tyr Asp	Asn Arg 185	Val 170 Ala	155 Ser Leu	Glu Gln	Ser Lys	Glu Val 190	Lys 175 Lys	Gly Glu
145 Glu Ile Glu	Asn Ser Val	Pro Ala Glu 195	Asp Asp 180 Ala	Val 165 Asp Asn	150 Leu Leu Gly	Lys Leu Cys	Tyr Asp Lys 200	Asn Arg 185 Ala	Val 170 Ala Ala	155 Ser Leu Leu	Glu Gln Glu	Ser Lys Lys 205	Glu Val 190 Tyr	Lys 175 Lys Asp	Gly Glu Arg
145 Glu Ile Glu Tyr	Asn Ser Val Ser 210	Pro Ala Glu 195 Val	Asp Asp 180 Ala Lys	Val 165 Asp Asn Glu	150 Leu Leu Gly Tyr	Lys Leu Cys Leu 215	Tyr Asp Lys 200 Lys	Asn Arg 185 Ala Glu	Val 170 Ala Ala Glu	155 Ser Leu Leu Gly	Glu Gln Glu Gly 220	Ser Lys Lys 205 Leu	Glu Val 190 Tyr Ser	Lys 175 Lys Asp	Gly Glu Arg Gly
145 Glu Ile Glu Tyr	Asn Ser Val Ser 210	Pro Ala Glu 195 Val	Asp Asp 180 Ala	Val 165 Asp Asn Glu	150 Leu Leu Gly Tyr	Lys Leu Cys Leu 215	Tyr Asp Lys 200 Lys	Asn Arg 185 Ala Glu	Val 170 Ala Ala Glu	155 Ser Leu Leu Gly	Glu Gln Glu Gly 220	Ser Lys Lys 205 Leu	Glu Val 190 Tyr Ser	Lys 175 Lys Asp	Gly Glu Arg Gly
145 Glu Ile Glu Tyr Ala 225	Asn Ser Val Ser 210 Val	Pro Ala Glu 195 Val Arg	Asp Asp 180 Ala Lys	Val 165 Asp Asn Glu Ile	150 Leu Leu Gly Tyr Gly 230	Lys Leu Cys Leu 215 Asp	Tyr Asp Lys 200 Lys Leu	Asn Arg 185 Ala Glu Leu	Val 170 Ala Ala Glu Asn	155 Ser Leu Leu Gly Glu 235 Ala	Glu Glu Glu Gly 220 Gln	Ser Lys Lys 205 Leu Ser	Glu Val 190 Tyr Ser Leu	Lys 175 Lys Asp Pro	Gly Glu Arg Gly Tyr 240
145 Glu Ile Glu Tyr Ala 225 Thr	Asn Ser Val Ser 210 Val Ala Thr	Pro Ala Glu 195 Val Arg Leu Tyr	Asp Asp 180 Ala Lys Met	Val 165 Asp Asn Glu Ile Glu 245 Glu	150 Leu Leu Gly Tyr Gly 230 Met Val	Lys Leu Cys Leu 215 Asp Ile Thr	Tyr Asp Lys 200 Lys Leu Tyr	Asn Arg 185 Ala Glu Leu Asp Gly 265	Val 170 Ala Ala Glu Asn Gln 250 Ser	155 Ser Leu Leu Gly Glu 235 Ala Asp	Glu Glu Gly 220 Gln Asp Leu	Ser Lys 205 Leu Ser Val Leu	Val 190 Tyr Ser Leu Asn Pro 270	Lys 175 Lys Asp Pro Met Asp 255 Glu	Gly Gly Gly Tyr 240 Ser

His Ile Arg Gln Ser Asp Lys Gly Val Ile Val Ser Tyr Gln Thr Gly Asn Glu Ser Ser Leu Met Asp Leu Ser Ala Asp Ile Val Leu Val Thr Thr Thr Ala Lys Ala Ala Leu Phe Ile Asp Phe Asp Pro Pro Leu Ser Ile Ser Lys Met Glu Ala Leu Arg Ser Val His Tyr Asp Ser Ser Thr Lys Ile Leu Leu Thr Phe Arg Asp Lys Phe Trp Glu Asp Asp Gly Ile Arg Gly Gly Lys Ser Ile Thr Asp Gly Pro Ser Arg Tyr Ile Tyr Tyr Pro Ser His Ser Phe His Thr Asn Glu Thr Ile Gly Val Leu Leu Ala Ser Tyr Thr Trp Ser Asp Glu Ser Leu Leu Phe Leu Gly Ala Ser Asp Glu Glu Leu Lys Glu Leu Ala Leu Arg Asp Leu Ala Lys Ile His Gly Glu Gln Val Trp Asp Lys Cys Thr Gly Val Ile Val Lys Lys Trp Ser Ala Asp Pro Tyr Ser Leu Gly Ala Phe Ala Leu Phe Thr Pro Tyr Gln His Leu Glu Tyr Ala Gln Glu Leu Phe Ser Ser Glu Gly Arg Val His Phe Ala Gly Glu His Thr Ala Phe Pro His Ala Trp Ile Glu Thr Ser Met Lys Ser Ala Ile Arg Ala Ala Thr Asn Ile Asn Lys Val Ala Asn Glu Glu Ser Thr Ile Glu His Thr Lys Asp Glu Leu

SEQ ID NO: 2 LENGTH: 1575

TYPE: nucleic acid

NUMBER OF CHAIN: single strand

TOPOLOGY: linear KIND: cDNA to mRNA

SEQUENCE

ATG	TAA	CIG	CAT	GIG	GIG	AAA	TGG	AAA	TTA	TCT	GIT	GIC	AGT	GIG	CIG	48
Met	Asn	Leu	His	Val	Val	Lys	Trp	Lys	Leu	Ser	Val	Val	Ser	Val	Leu	
				5					10					15		
ATC	ACA	TIG	TAC	TAC	AGT	CAC	ACT	GIT	CCT	CIC	AGC	CIG	AAG	GAA	CAT	96
Ile	Thr	Leu	Tyr	Tyr	Ser	His	Thr	Val	Ala	Leu	Ser	Leu	Lys	Glu	His	
			20					25					30			
CIG	CCT	CAT	TGT	CIT	GAA	GAC	AAA	GAC	TAT	GAC	ACG	CIG	CIG	CAG	ACT	144
Leu	Ala	Asp	Cys	Leu	Glu	Asp	Lys	Asp	Tyr	Asp	Thr	Leu	Leu	Gln	Thr	
		.35					40					45				
				CIT												192
Leu	_	Asn	Gly	Leu	Pro		Ile	Asn	Thr	Ser		His	Val	Val	Ile	
	50					55		- ~~		~~~	60			~~~	~~ ~	0.40
				ATG												240
_	GLY	Ala	GLY	Met		GTÀ	Leu	Inr	Ата		гуs	Leu	Leu	Gin	_	
65					70			~~~		75	cm m		~	~~	80	000
				GIA												. 288
	GTĀ	Hls	ınr	Val	ınr	ще	Leu	Glu		Asn	Asp	Arg	vai	_	σīλ	
81	~~~	~~		· 85	~~~		~~~~		90	~~	m~~	man.	~~	95	200	226
				TAC												336
Arg	val	GIU		Tyr	Arg	ASII	GIU		GLU	GTÀ	пр	Tyr		GLU	Mec	
~~	~~	אחוצר	100	ATC	~~	7000	ur vu	105	œ	יייית	CITC.	CAC	110	वसम	CTIC	384
				Ile												204
GTÀ	Αια	115	_	TTE	PLO	Ser	120	шз	ALG	TTE	vail	125	тър	rije	vai	
תתת	מאכי			GIC	C	בידית		CNC	ייוייי	CTC	ביתת		CZ/Tr	CZ)C	አለሮ	432
				Val												432
цуз	130	Leu	шу	vai		135	POLI	Giu	FIIC		140	1111	ДСЛ	μ	Lich	
ACC		ጥልሮ	CITC:	ىلىلت			CIK	ന്ദ	CAC			יייבייי	رابات	بلبلت		480
Thr																100
145		-7-	Lu	· car	150	J.	•	9	<u> </u>	155		-1-	•	•	160	
GAA	AAC:	CTT	C Z AT'	GIC		AAG	TAC	AAC	GIG		GAA	AGC.	GAG	AAG		528
Glu																-20
			_	165			- <u>J</u>		170					175	2	
				100					2,0					115		

						CTA										576
Ile	Ser	Ala	Asp	Asp	Leu	Leu	Asp	Arg	Ala	Leu	Gln	Lys	Val	Lys	Glu	
			180					185					190			
						TGT										624
Glu	Val	Glu	Ala	Asn	Gly	Cys	Lys	Ala	Ala	Leu	Glu	Lys	Tyr	Asp	Arg	
		195					200					205				
						CIG										672
Tyr	Ser	Val	Lys	Glu	Tyr	Leu	Lys	Glu	Glu	Gly	Gly	Leu	Ser	Pro	Gly	
	210					215					220					
						GAC										720
Ala	Val	Arg	Met	Ile	Gly	Asp	Leu	Leu	Asn			Ser	Leu	Met		
225					230					235					240	
						ATC										768
Thr	Ala	Leu	Ser	Glu	Met	Ile	Tyr	Asp			Asp	Val	Asn			
				245					250					255		01.6
						ACG										816
Val	Thr	Tyr	His	Glu	Val	Thr	Gly	_	Ser	Asp	Leu	Leu		Glu	ALa	
			260					265					270	cmc.	777	064
						GIC										864
Phe	Leu		Val	Leu	Asp	Val		Ile	Leu	Leu	Asn		ьуs	vai	цуs	
		275					280			~~~	mcm.	285	an a	7. (77)	~~	912
						AAA -										912
His		Arg	Gln	Ser	Asp	Lys	GГĀ	vaı	тте	val		Tyr	GILI	тит	GrĀ	
	290					295			~~	CT C	300	~	anc.	CIIIN	אכיא	960
						GAC										900
	Glu	Ser	Ser	Leu		Asp	Leu	Ser	ALA		ще	val	Leu	Val	320	
305				~~	310	~~~	mm-1	201120	CNC	315	CJVIII.	CC7\	CTT.	CIT'		1008
						CIC										+000
Thr	Inr	ALA	гÀг		ALA	Leu	ne	TTG	330	FILE	мър	110	110	335		
7.ma	7 CM	770	»m~	325	~~	CTC	œ	עריאת		CDC	יויענייוי	GAC	ACC		ACT	1056
						Leu										
тте	ser		Mec 340	GIU	ALA	Leu	ALG	345	var	1110	-7-	ızp	350			
77.77	7,007			אכיכי	יונונים	œc	СДАТ		ייווי	TYY:	GAG.	GAC		GGC	ATC	1104
						Arg										
гуs	тте		Leu	1111	FIRE	ALG	360	LlyS	LIC	LLP	<u>ш</u> ~	365				
~~~	~~~	355	77/0	אכבר	יוידיע	ACC		CC-2A	CCT	יוניטוי	CGT		ATC	TAC	TAT	1152
						Thr										
Arg	370	ary	пуэ	OCI	110	375		<u> </u>			380				<b>.</b>	
$\sim$		CNC	Σرتاب	יאויני	ርሚጥ	ACA		GAG	ACC:	ATT			CIC	CIG	GCA	1200
						Thr										
385	CET	1113	ــــــــــــــــــــــــــــــــــــــ	1110	390					395	-1				400	
										- '						

TCC	TAC	: ACI	TG	TCI	GAC	CAC	TOO	CIC	CIV	TTC	CIG	GG	r gcz	A AGO	CAT	1248
Ser	Tyr	Thr	Trp	Ser	: Asp	Glu	Ser	Leu	Lei	ı Phe	e Leu	Gly	/ Ala	a Sei	: Asp	
				405					410	)				41	5	
GAAA	GAG	CIG	AAA :	GAC	CIG	$\infty$	CIG	AGA	GA)	CIC	GCA	AAA	YEA A	CAC	GGT	1296
Glu	Glu	Leu	Lys	Glu	Leu	Ala	Leu	Arg	Asp	Leu	ı Ala	Lys	Ile	His	Gly	
			420	)				425	•				430			
GAG	CAA	GIC	TGG	CAT	AAG	TCC	ACG	GGA	GIC	ATA	GIG	AAC	, AAG	TGG	AGC	1344
Glu	Gln	Val	Trp	Asp	Lys	Cys	Thr	Gly	Val	. Ile	Val	Lys	Lys	Trp	Ser	
		435					440					445				
CCT	GAT	CT	TAC	AGC	TTG	GGC	$\alpha$	TTC	CCI	CIC	TIC	ACA	$\infty$	TAC	CAA	1392
Ala	Asp	Pro	Tyr	Ser	Leu	Gly	Ala	Phe	Ala	Leu	Phe	Thr	Pro	Tyr	Gln	
	450					455					460					
CAC	TIĢ	GAG	TAC	CCT	CAG	GAG	CTC	TTC	AGC	AGC	GAG	GGC	AGG	GIG	CAC	1440
His	Leu	Glu	Tyr	Ala	Gln	Glu	Leu	Phe	Ser	Ser	Glu	Gly	Arg	Val	His	
465					470					475					480	
TTT	CT	GGT	GAA.	CAC	ACA	$\alpha$	TIC	CCT	CAT	CCT	TGG	ATC	GAA.	ACG	TCT	1488
Phe	Ala	Gly	Glu	His	Thr	Ala	Phe	Pro	His	Ala	$\operatorname{Trp}$	Ile	Glu	Thr	Ser	
				485					490					495		
ATG	AAA	TCT	GCA	ATC	AGG	CCT	CCT	ACA	TAA	TTA	TAA	AAA	GIG	GCA	TAA	1536
Met	Lys	Ser	Ala	Ile	Arg	Ala	Ala	Thr	Asn	Ile	Asn	Lys	Val	Ala	Asn	
			500					505					510			
GAA (	GAG	TCA	ACT	ATA	GAA.	CAT	ACA .	AAA	GAT	GAG	CIG	TAG			1575	
Glu	Glu	Ser	Thr	Ile	Glu	His	Thr :	Lys	Asp	Glu	Leu '					
		515					520									